

Cholinesterase-inhibitor Treatment On Cognitive Outcomes In Early- and Late-onset Biomarker-confirmed Alzheimer's Disease

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Conclusions

- Patients with (ChEIs) had better cognitive outcomes than memantine in biomarker-confirmed Alzheimer's disease (AD).
- Early- and late-onset AD showed similar overall trajectories, but subgroup differences emerged by drug type.
- Particularly favorable associations for galantamine were observed in patients positive for amyloid (A+), tau (T+), and neurodegeneration (N+).
- Findings support biomarker-informed, individualized treatment strategies in AD.

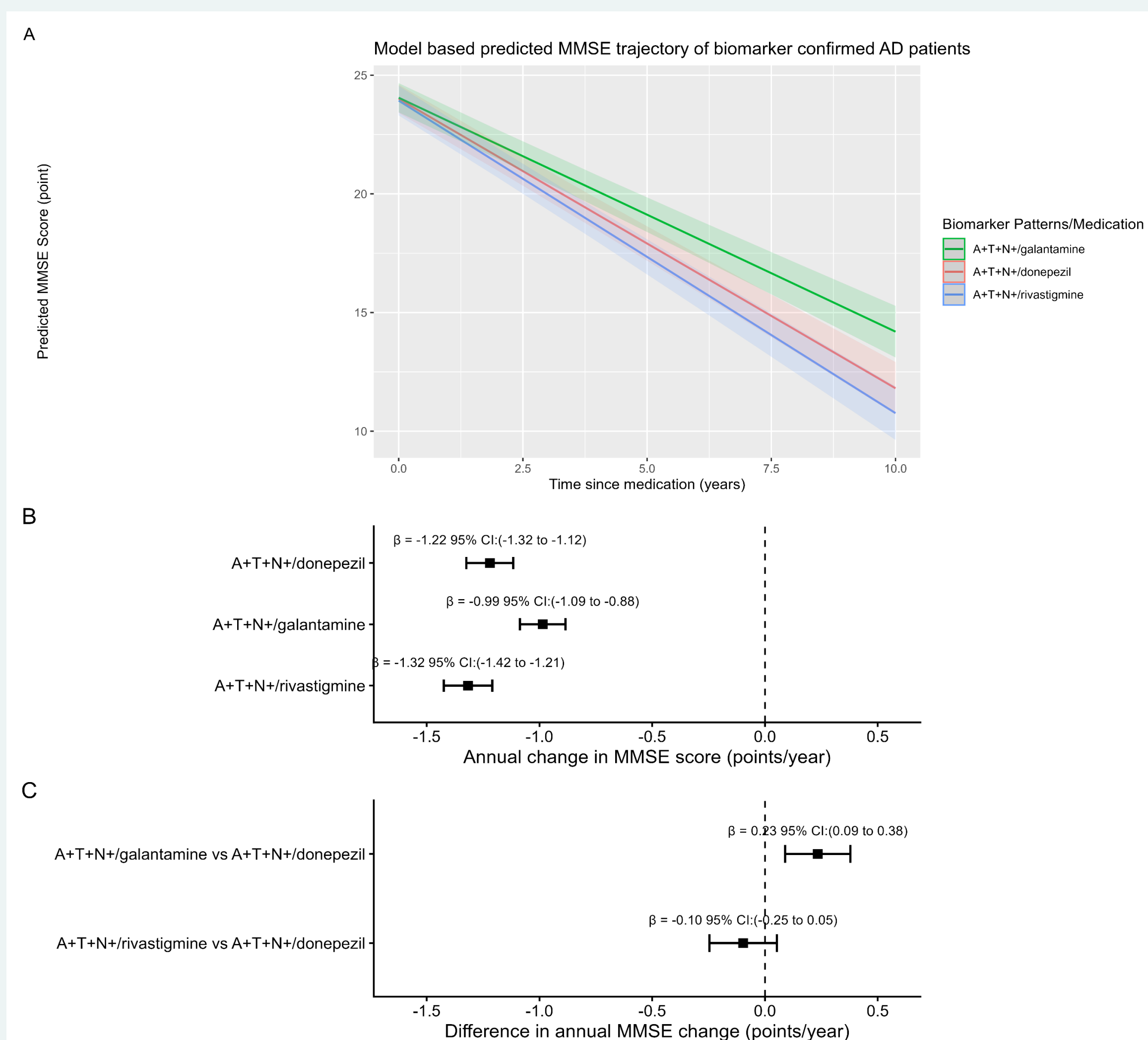


Figure 3. Predicted MMSE trajectories by treatment status among ChEIs users with A+T+N+ (A+T+N+/donepezil, n=1 060; A+T+N+/galantamine, n=557; A+T+N+/rivastigmine, n=670).

Introduction

- AD is biologically and clinically heterogeneous, with substantial variation in disease onset and biomarker profiles.
- Whether treatment-associated cognitive trajectories differ across diagnostic and biological subgroups of AD remains unclear.

Aims

- To evaluate whether cholinesterase inhibitors (ChEIs) versus memantine are associated with differences in cognitive decline in biomarker-confirmed AD.
- To explore whether these associations vary by age at onset and biomarker profile.

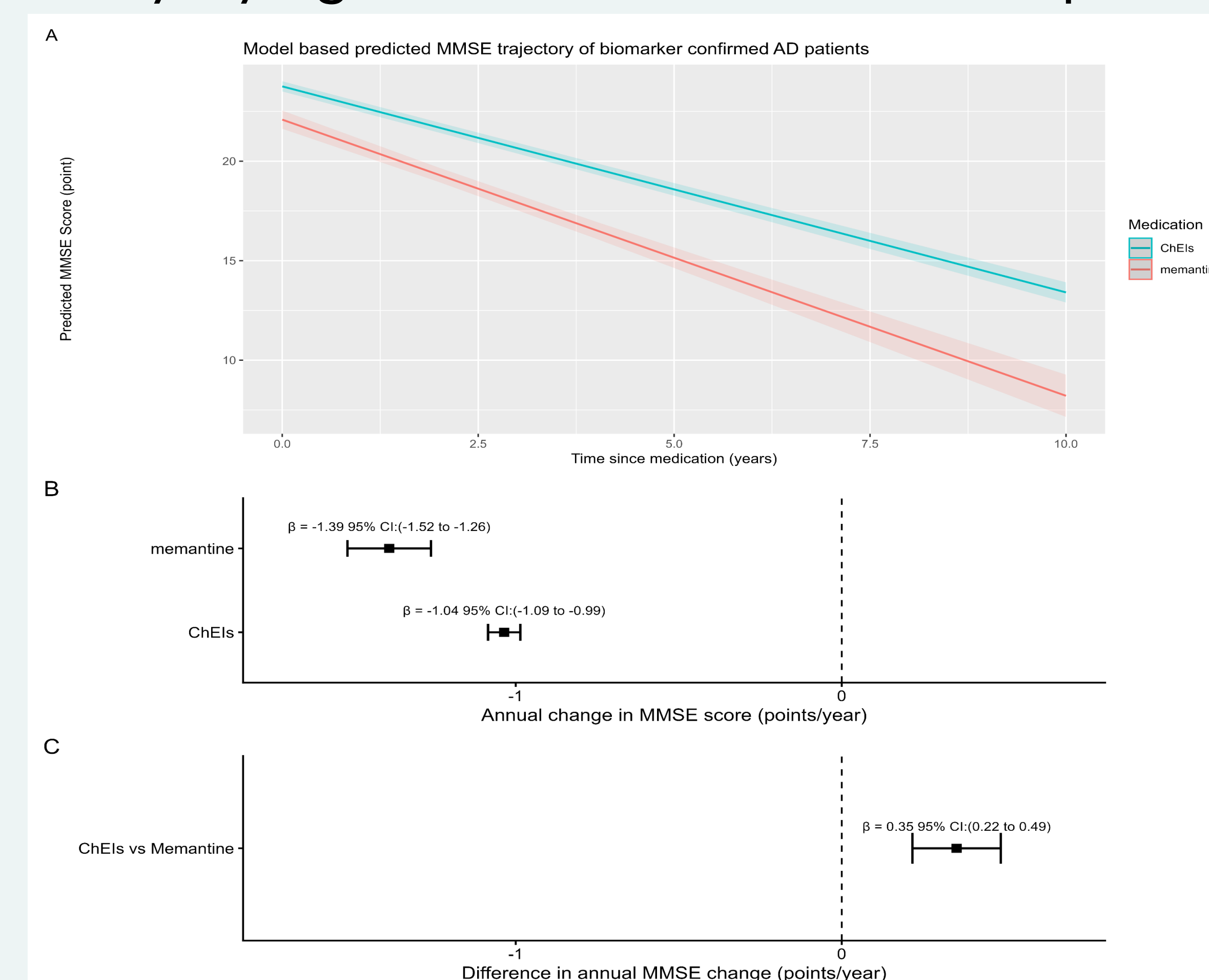


Figure 1. Predicted MMSE trajectories by treatment status (ChEIs, n=3 568; memantine, n=292).

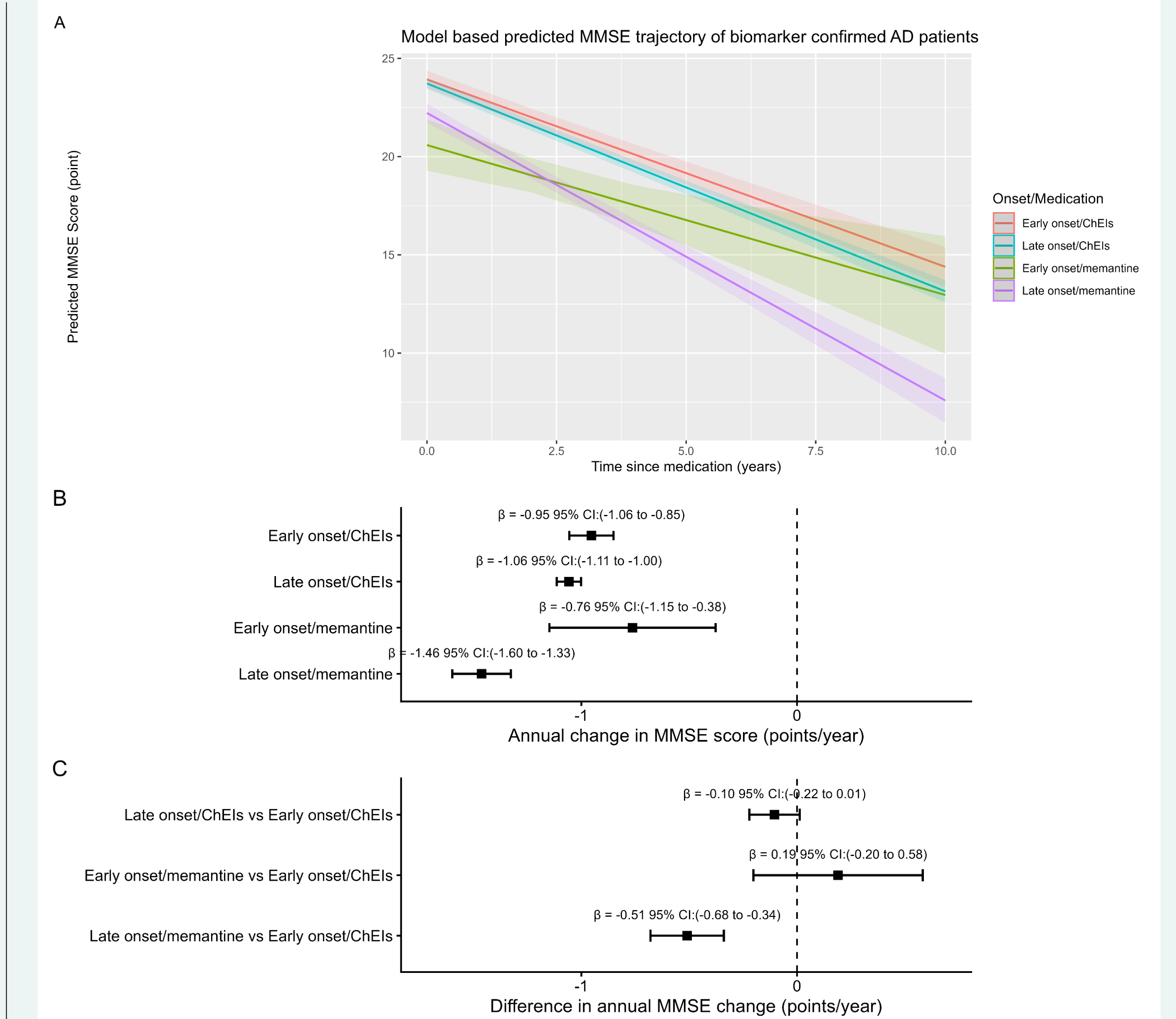


Figure 2. Predicted MMSE trajectories by onset and treatment status (early onset/ChEIs, n = 670; late onset/ChEIs, n = 2 998; early onset/memantine, n = 22; late onset/memantine, n = 270).

Methods

- 3 860 biomarker-confirmed AD from SveDem were included (10 years follow up).
- Initiation and time-varying use of ChEIs or memantine within six months after diagnosis and during follow-up.
- Cognitive decline assessed via MMSE trajectories, modeled using linear mixed-effects analyses.